



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

DEVAL L. PATRICK
Governor

MAEVE VALLELY BARTLETT
Secretary

DAVID W. CASH
Commissioner

November 13, 2014

Mr. Jim Buckman
Cintas Corporation
27 Whitney Drive
Milford, OH 45150

RE: *CHELMSFORD*
Transmittal No.: X256234
Application No.: *NE-14-010*
Class: *SM25*
FMF No.: 287824
**AIR QUALITY PLAN
APPROVAL**

Dear Mr. Buckman:

The Massachusetts Department of Environmental Protection (“MassDEP”), Bureau of Waste Prevention, has reviewed your Limited Plan Application (“Application”) listed above. This Application concerns the existing unapproved equipment at your facility located at 200 Apollo Drive, Chelmsford, MA 01824 (“Facility”). The mailing address for the Facility is 27 Whitney Drive, Milford, OH 45150.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 “Air Pollution Control” regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP’s review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner / operator (Permittee) must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

Cintas Corporation (the Permittee) operates an existing industrial laundering facility at the Facility that processes soiled shop towels, uniforms and floor mats. The shop towels may contain substances, such as solvents and oil, which emits volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). The primary sources of VOC and HAP emissions from laundering shop towels at the Facility include eight (8) washing machines that vent into the Facility's HVAC system, five (5) dryers which vent to the atmosphere, and the waste water treatment system and an equalization tank which also vent into the facility's HVAC system.

The Permittee also has two Mat Cleaning Machines to clean, dry, and roll industrial floor mats. During processing, these mat cleaning machines remove particulate matter (PM) such as dust, soil and sand from the mats using vibrations. PM from these mats are vented through a specially designed exhaust system and collected in two PM control devices: Imperial Systems Model UHE36 Cyclone No. 1 (PCD1) and Imperial Systems Model UHE36 Cyclone No. 2 (PCD2).

On April 19, 2012, Cintas conducted emission testing at another Cintas facility in accordance with an EPA-approved protocol pursuant to USEPA's testing order. The results of testing indicated that VOCs and HAPs are emitted from washers, dryers, and the waste water treatment system at the Facility due to laundering of shop towels.

A Consent Agreement and Final Order (CAFO), Docket No. CAA-01-2014-0014, was finalized between the USEPA Region 1 and Cintas Corporation on May 7, 2014. The operational/production limits, monitoring and testing requirements, record keeping requirements, reporting requirements, and special conditions from the CAFO have been incorporated into this Final Approval.

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1			
EU#	Description	Design Capacity	Pollution Control Device (PCD)
EU1	Washer Model Braun 450 Open Pocket	450 lbs clean dry laundry ¹	None
EU2	Washer Model Braun 450 Open Pocket	450 lbs clean dry laundry ¹	None
EU3	Washer Model Braun 450 Open Pocket	450 lbs clean dry laundry ¹	None
EU4	Washer Model Braun 450 Open Pocket	450 lbs clean dry laundry ¹	None
EU5	Washer Model Braun 450 Open Pocket	450 lbs clean dry laundry ¹	None

Table 1			
EU#	Description	Design Capacity	Pollution Control Device (PCD)
EU6	Washer Model Braun 450 Open Pocket	450 lbs clean dry laundry ¹	None
EU7	Washer Model Braun 450 Open Pocket	450 lbs clean dry laundry ¹	None
EU8	Washer Model Braun 450 Open Pocket	450 lbs clean dry laundry ¹	None
EU9	Dryer Model Braun 500PT	450 lbs clean dry laundry	None
EU10	Dryer Model Braun 500PT	450 lbs clean dry laundry	None
EU11	Dryer Model Braun 500PT	450 lbs clean dry laundry	None
EU12	Dryer Model Braun 500PT	450 lbs clean dry laundry	None
EU13	Dryer Model Braun 500PT	450 lbs clean dry laundry	None
EU14	WWT system including Equalization Tank	100 gallons per minute	None
EU15	Mat Cleaning Machine	800 linear feet per hour	Cyclone PCD1
EU16	Mat Cleaning Machine	800 linear feet per hour	Cyclone PCD2

Table 1 Key:

EU = Emission Unit

= Number

lbs = Pounds

¹ no more than 1.75 times the manufacturer's rated clean towel capacity in any washer at any given time and less than 1.25 times the manufacturer's rated clean towel capacity for each washer over any consecutive twelve month rolling period.

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION AND EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2, below:

Definitions:

Shop Towel – a piece of cotton fabric or other material that is used to clean equipment, parts, objects or surfaces of general soil, grease or oil. Small amounts of solvent containing volatile organic compounds (VOCs) may be present on a shop towel, but these solvents must not have low flash points.

Print Towel – a piece of cotton fabric or other material, received from a customer whose SIC Code is 27 (NAICS Code 323) or whose business is otherwise identifiable as printing or graphic arts, that is used to clean printing equipment, parts, objects or surfaces and that contain any solvent with a flash point less than 140 degrees Fahrenheit (°F).

Furniture Towel – a piece of cotton fabric or other material, received from a customer whose SIC Code is 25 (NAICS Code 337) or whose business is otherwise identifiable as wood furniture manufacturing or refinishing, that is used in the cleaning, finishing or refinishing of wood furniture and that contains any solvent with a flash point less than 140 °F.

Table 2			
EU#	Operational / Production Limit	Air Contaminant	Emission Limit
EU1 – EU8	Soiled shop towel load sizes on a 12 month rolling average of no more than 1.25 times the manufacturer's rated clean towel capacity for each washer.	N/A	N/A
	Maximum soiled shop towel load size of no more than 1.75 times the manufacturer's rated clean towel capacity in any single washer load.		
EU1 – EU14	Maximum of 2,800,000 pounds of soiled shop towels per rolling 12-month period, based on a shop towel emission factor of 6.8 pounds of VOC per 1000 pounds of soiled shop towels	VOCs	3.2 TPM 9.5 TPY
		HAPs (total)	0.7 TPM 2.0 TPY
EU15 - EU16	Maximum post PCD1 and PCD2 PM of 0.15 pounds per 1000 linear feet of mats cleaned, which is equivalent to an overall PM collection efficiency of 81.5 percent by weight.	PM	0.4 TPM 1.1 TPY
Facility-wide ¹	N/A	VOC	3.3 TPM 9.9 TPY
		HAPs (total)	0.8 TPM 2.2 TPY
		PM	0.9 TPM 2.8 TPY

Table 2 Key:

EU# = Emission Unit Number

VOC = Volatile Organic Compounds

Total HAPs = Total Hazardous Air Pollutants

PM = Particulate Matter

TPM = tons per month

TPY = tons per any consecutive 12-month period

N/A = Not Applicable

¹ Facility-wide emission limits include combustion emissions that do not have applicable permitting requirements.

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5 below:

Table 3	
EU#	Monitoring and Testing Requirements
EU1 – EU8	1. The Permittee shall monitor the soiled shop towel weight per washer load, including washer load size per washer load, such that records can be maintained of the Facility's emissions of VOC and total HAPs to determine compliance status with the emission limits detailed in Table 2 above.
	2. The Permittee shall monitor operations of EU1 - EU8 to verify compliance with the Facility emission limitations contained in Table 2 above.
EU15 - EU16	3. The Permittee shall conduct initial particulate matter (PM) air emissions testing of its post PCD1 and PCD2 PM within 180 days of the issuance of this Approval to demonstrate emission rates from EU15 and EU16. The PM testing shall include two types: a) filterable particulate matter as measured by EPA Method 5, designated as "front-half" PM, which is used for compliance purpose; and b) condensable particulate matter as measured by EPA Method 202, designated as "back-half" PM. All proposed testing shall follow US EPA Reference Test Methods, 40 CFR Part 60, Appendix A.
	4. At least 30 days prior to the air emissions testing program, the Permittee shall submit a written test protocol that outlines the test methodology for MassDEP review and approval. A mutually agreed upon test date between the Facility and the MassDEP shall be set to allow MassDEP personnel the opportunity to witness the test program. Within 45 days of the completion of required air emissions testing, the Permittee shall submit results of its test to this Office for review.
	5. The Permittee shall maintain a minimum pressure drop across PCD1 and PCD2 of 4.69 inches of water as recommended by the manufacturer. The Permittee shall monitor the pressure drop on a daily basis to assure compliance with PM control efficiency.
EU15 - EU16	6. The Permittee shall visually ensure daily that PCD1 and PCD2 fan is on and rotating prior to operation of EU15 and EU16.
	7. The Permittee shall ensure that during system upset, EU15, EU16 and associated PCD1 and PCD2 shall be manually or automatically shutdown.

Table 3	
EU#	Monitoring and Testing Requirements
EU1 - EU16	8.The Permittee shall monitor operations so that if any upset occurs with EU1 - EU16, the Permittee shall safely discontinue operation of all associated emission unit(s) until the device(s) in question is repaired and operating properly.
	9.The Permittee shall monitor all maintenance related activities that may affect air contaminant emission rates.
Facility-wide	10.The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	11.If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13.

Table 3 Key:

EU# = Emission Unit Number

VOC = Volatile Organic Compounds

Total HAPs = total Hazardous Air Pollutants

PM = Particulate Matter

PCD = Pollution Control Device

MassDEP = Massachusetts Department of Environmental Protection

USEPA = United States Environmental Protection Agency

Table 4	
EU#	Record Keeping Requirements
EU1 – EU8	1.The Permittee shall keep records to demonstrate that soiled shop towel load sizes on a 12 month rolling average is no more than 1.25 times the manufacturer’s rated clean towel capacity.
	2.The Permittee shall keep records to demonstrate that soiled shop towel load size is no more than 1.75 times the manufacturer’s rated clean towel capacity.
	3.The Permittee shall keep records to demonstrate that no more than 2,800,000 pounds of soiled shop towels per rolling 12-month period, shall be laundered based on a shop towel emission factor of 6.8 pounds of VOC per 1000 pounds of soiled shop towels.
EU15 - EU16	4.The Permittee shall record the pressure drop across each cyclone (PCD1 and PCD2) on a daily basis and record the total linear feet of mats cleaned on EU15 and EU16, on a monthly basis to demonstrate that the maximum post PCD1 and PCD2 PM shall not exceed 0.15 pounds per 1000 linear feet of mat cleaned, which is equivalent to an overall PM collection efficiency of 81.5 percent by weight.

Table 4	
EU#	Record Keeping Requirements
Facility-wide	<p>5. The Permittee shall maintain current copies of the following records on-site and have them available for MassDEP or USEPA inspection upon request:</p> <p>a. Definitions of shop, print and furniture towels and written procedures at a visible location for the Facility employees and managers who handle or are otherwise responsible for towel laundering to ensure that the Facility <u>shall not</u> launder:</p> <p>i) print towels;</p> <p>ii) furniture towels; or</p> <p>iii) shop towels containing free liquids.</p> <p>b. Training materials regarding shop towel handling procedures, and records demonstrating that all current employees who handle shop towels or who are otherwise responsible for towel laundering, have been trained on proper handling procedures;</p> <p>c. Wash formula for shop towels; and</p> <p>d. Soiled shop towels throughput records, including washer load size records per load as well as on a monthly and 12-month rolling basis so as to comply with the production and emissions limits contained in Table 2 above.</p>
	6. The Permittee shall keep the most updated training materials and records at a visible location for the Facility employees who are responsible for towel sorting and laundering to demonstrate the names of trained employees.
	7. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve month period (current month plus prior eleven months). These records shall be compiled no later than the 15 th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/dep/air/approvals/aqforms.htm#report .
	8. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	9. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up to date SOMP for EU1 - EU16, PCD1 and PCD2 approved herein on-site.
	10. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU1 - EU16, PCD1 and PCD2. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	11. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU1 - EU16, PCD1 and PCD2, and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.

Table 4	
EU#	Record Keeping Requirements
	12. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
Facility-wide	13. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	14. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:

EU# = Emission Unit Number

PCD = pollution control device

SOMP = Standard Operating and Maintenance Procedure

MassDEP = Massachusetts Department of Environmental Protection

USEPA = United States Environmental Protection Agency

Table 5	
EU#	Reporting Requirements
Facility-wide	1. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	2. The Permittee shall notify the Northeastern Regional Office of MassDEP, BWP Permit Chief by email at (nero.air@state.ma.us) or fax at (978-694-3499) as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	3. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30 days from MassDEP's request.
	4. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.
	5. The Permittee shall submit to MassDEP a final stack emission test results report, within 60 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.

Table 5 Key:

EU# = Emission Unit Number

CMR = Code of Massachusetts Regulations

MassDEP = Massachusetts Department of Environmental Protection

BWP =Bureau of Waste Prevention

3. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

- A. The Permittee shall comply with the Special Terms and Conditions as contained in Table 6 below:

Table 6	
EU#	Special Terms and Conditions
EU1 - EU13	1. The Permittee <u>shall not</u> launder: (i) print towels, (ii) furniture towels. The Permittee <u>shall not</u> launder shop towels containing free liquids.
	2. The Permittee shall keep soiled shop towels received at the Facility in sealed bags or covered containers until the towels are sorted for washing.
	3. The Permittee shall generally launder soiled shop towels received that same day or night. Soiled shop towels that are not laundered on the same day or night of receipt shall be stored in sealed bags or closed containers in a covered area outside of the laundry building.
	4. If the Permittee receives at the Facility any (i) print towels, (ii) furniture towels, or (iii) any shop towels containing free liquids, the Permittee shall store such prohibited towels in closed containers or sealed bags in a covered area outside of the laundry building and transport these towels off-site for handling in accordance with applicable environmental laws.
EU14	5. The Permittee shall keep wastewater trenches, settling pits, and equalization tanks covered at all times except when access is required for maintenance or sampling. This provision does not apply to plumbing vents installed on such trenches, pits, and tanks.
Facility-wide	6. The Permittee shall maintain the most updated written training materials for managers and laundering staff, which include specific instructions for handling any print, furniture, or non-compliant shop towels that are received at the facility.
	7. The Permittee shall maintain the most updated written training materials for managers and laundering staff and provide training to all employees responsible for shop towel laundering, regarding proper procedures for sorting, transporting, receiving, storing, processing, washing, and drying shop towels.
	8. The Permittee shall label each emission unit (EU) approved herein for proper monitoring, recordkeeping, and reporting purposes.

Table 6 Key:

EU# = Emission Unit Number

- B. The Permittee shall utilize an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack

shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as “shanty caps” and “egg beaters”. The Permittee shall utilize exhaust stacks with the following parameters, as contained in Table 7 below, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU#	Stack Height Above Ground	Stack Inside Exit Dimensions	Minimum Stack Gas Exit Velocity	Minimum Stack Gas Exit Temperature
EU9 - EU13 (5 Dryers stacks)	35 feet	1.67 feet	76 feet per second	95°F
EU15 - EU16 (Mat cleaning stacks)	15 feet	1.12 feet	85 feet per second	70°F

Table 7 Key:

EU# = Emission Unit Number

°F = Degrees Fahrenheit

GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and/or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain “Fail-Safe Provisions,” which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval. Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Should you have any questions concerning this Plan Approval, please contact Mr. Dhiraj Desai by telephone at 978-694-3282, or in writing at the letterhead address.

Sincerely,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Dhiraj B. Desai
Environmental Engineer

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Susan P. Ruch
Deputy Regional Director
Bureau of Waste Prevention

cc: Board of Health, 50 Billerica Road, Chelmsford, MA 01824
Fire Department, 7 N Road, Chelmsford, MA 01824
ARCADIS, one Executive Drive, Suite 303, Chelmsford, MA 01824, Attn: Tina Berceli-Boyle
MassDEP/Boston (E-Copy) - Yi Tian
MassDEP/NERO (E-Copies) – Marc Altobelli, Ed Braczyk, Mun Wong
MassDEP/NERO (Hard Copy) – Mary Persky
EPA Region-1 (E-Copy) – Christine Sansevero